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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,937	06/21/2001	William Paul Bullock	031-3	4857

7590 02/11/2005

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EXAMINER

HELMER, GEORGIA L

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 02/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 09/886,937	<b>Applicant(s)</b> BULLOCK ET AL.	
	<b>Examiner</b> Georgia L. Helmer	<b>Art Unit</b> 1638	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____.<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____. |
|--|--|

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***Status of the Claims***

1. The Office acknowledges receipt of Applicant's Response; 18 November 2004.
2. Applicant has amended claims 1-3, and 6. Claims 1- 20 are pending, claims 7-20 are withdrawn as belonging to nonelected inventions, and claims 1-6 are examined in the instant action.
3. This action is made FINAL necessitated by Applicant's amendment.
4. All rejections not addressed below have been withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, because this claim is drawn to the method according to "any of claims" 1, where as only one claim is indicated. This language should be amended to say "according to claim 1".

Corrections or clarifications are required.

***Claim Rejections - 35 USC § 102***

8. Claims 1, 4, and 5 remain rejected under 35 U.S.C. 102(b) as being anticipated by Coffee, et. al., US 5,302,523, issued 12 April 1994 (IDS).

Coffee teaches a method of introducing a nucleic acid using a "whisker cocktail" consisting of maize (BMS) suspension cell line cells ( column 4, lines 39-bridging to

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column 5, line 8), silicon carbide ceramic fibers ("whiskers"), a CaMV35S/Gus nucleic acid, and mixing (vortexing) for 10 seconds to produce transformed maize cells (Table 2, column 5). Coffey teaches vortexing the whiskers cocktail for 10 seconds. Vortex mixers commonly used in laboratories have a speed range of 0-2700 rpm (see Cole-Parmer Instrument Company catalogue information on "shakers", attached; see also [coleparmer.com/catalogue/0304](http://coleparmer.com/catalogue/0304), 1 February 2005). It is noted that the claims 1, 4, and 5 are drawn to a means for shaking of less than 2100 cycles per minute and more than 350 cycles per minute. When the means for shaking is turned on until it comes to speed, the cocktail is subject to a continuum of frequencies of cycles per minute, which include both 1000 and 768 cycles per minute.

9. Applicant's arguments filed 18 November 2004 have been fully considered but they are not persuasive. Applicant asserts that the amendment of claim 1 to reflect the ranges of the cycles and in claim 6, to the shaking mechanism, should overcome the 102(b) rejection under Coffee et. al. (Response, p. 4). Applicant's argument is not persuasive because the teachings of Coffee anticipate the claimed invention in terms of ranges of cycles per minute, as discussed above. The rejection of claim 6 is an obviousness rejection, as discussed below. The rejection under Frame et. al. is withdrawn.

Accordingly, Coffee anticipates the claimed invention.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1- 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coffee, et. al., US 5,302,523, issued 12 April 1994 (IDS), as discussed above for claims 1, 4, and 5, in view of the state of the art as evidenced by Cole-Parmer Instrument Company.

Claims 2 and 3 are broadly drawn to the regeneration of whole transformed plants following whisker-mediated cell transformation. Claim 6 is broadly drawn to the use of a "paint mixer machine" adapted for shaking.

Coffee teaches a whisker mediated transformation method comprising using a shaking method of between 350-2100 cycles per minute. Coffee's means-for-shaking was a vortex shaker. Coffee do not teach whole plant regeneration or the use of a paint mixer machine. Various means-for-shaking were standard laboratory equipment at the time the invention was made, such shakers include vortex shakers, reciprocal shakers and platform shakers, as evidenced by Cole-Parmer Instrument Company.

The use of a paint mixer machine is an obvious variant and reflects design choices, which were well within the knowledge and skill of one of ordinary skill in the art and could be used with reasonable expectation of success. The regeneration of whole transformed plants from the transformed plant cells was well within the skill level of the ordinary artisan at the time of the invention, and the benefits of obtaining whole transformed plants exhibiting particular agronomic properties was well known, as was

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the use of seed propagation of desirable genotypes. Thus the claimed invention would have been prima facie obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary. Accordingly, the claimed invention is prima facie obvious in view of the prior art.

See *In re Lindner*, 173 USPQ 356 (CCPA 1972) and *In re Grasselli*, 218 USPQ 769 (Fed. Cir. 1983) which teach that the evidence of nonobviousness should be commensurate with the scope of the claims. Applicant's invention is an improvement in whisker mediated DNA transfer, which improvement is the protocol employing a Red Devil modified paint shaker shaking a whiskers cocktail at about 768 cycles per minute for a time duration of 5-20 seconds. These specific parameters definite the scope of Applicant's patentable invention.

### ***Remarks***

12. No claims are allowed.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Georgia L. Helmer whose telephone number is 571-272-0976. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on 571-272-0804. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Georgia L. Helmer  
Patent Examiner  
Art Unit 1638  
February 3, 2005



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